

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A heat exchanger for motor vehicles, for a first flow medium and a second flow medium, comprising:

a tube bundle which includes a multiplicity of tubes,

a first tube plate and a second tube plate,

a housing,

inlet and outlet connection pieces for the first flow medium,

wherein the tubes comprise tube ends which are held and sealed in the tube plates, wherein the housing is connected to the tube plates so as to form a cooling chamber for the second flow medium and is connected at ends of the housing to the inlet and outlet connection pieces, and

wherein the first tube plate and the tubes are formed seamlessly integrally with a one-piece construction.

2. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the first tube plate, the tubes and the housing are formed all integrally with a one-piece construction.

3. (Currently Amended) The heat exchanger as claimed in claim 1, A heat exchanger for motor vehicles, for a first flow medium and a second flow medium, comprising:

a tube bundle which includes a multiplicity of tubes,

a first tube plate and a second tube plate,

a housing,

inlet and outlet connection pieces for the first flow medium,

wherein the tubes comprise tube ends which are held and sealed in the tube plates, wherein the housing is connected to the tube plates so as to form a cooling chamber for the second flow medium and is connected at ends of the housing to the inlet and outlet connection pieces, and

wherein the first tube plate and the tubes are formed with a one-piece construction,

wherein the first tube plate and the tubes integrally formed parts are produced by impact extrusion.

4. (Previously Presented) The heat exchanger as claimed in claim 3, wherein the integrally formed parts are produced from an aluminum extrusion alloy.
5. (Previously Presented) The heat exchanger as claimed in claim 1, wherein a cross section of the tubes is round, rectangular or polygonal.
6. (Previously Presented) The heat exchanger as claimed in claim 1, wherein a rounded transition region is provided between the tubes and the first tube plate.
7. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the tubes have fins or turbulence generators on their inner and/or outer side in order to improve the heat transfer.
8. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the inlet and outlet connection pieces and the tubes of the tube bundle are arranged aligned with one another.
9. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the inlet and outlet connection pieces, the second tube plate and/or the housing are cohesively joined to the integral, one-piece parts.
10. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the housing has an inlet opening and an outlet opening for the second flow medium.
11. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the heat exchanger is configured so that charge air can flow through the tubes and coolant for an internal combustion engine of a motor vehicle can flow through the housing.
12. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the first medium is a liquid or gaseous medium.

13. (Previously Presented) The heat exchanger as claimed in claim 1, wherein the second medium is a liquid or gaseous medium.

14. (Previously Presented) A primary cooler for charge air or exhaust gas of an internal combustion engine of a motor vehicle, comprising the heat exchanger of claim 1.

15. (Previously Presented) The heat exchanger as claimed in claim 6, wherein the rounded transition region is provided on an outer side of the tubes.

16. (Previously Presented) An intercooler for charge air or exhaust gas of an internal combustion engine of a motor vehicle, comprising the heat exchanger of claim 1.

17. (Previously Presented) A cooler for charge air or exhaust gas of an internal combustion engine of a motor vehicle, comprising the heat exchanger of claim 1.

18. (New) A heat exchanger for motor vehicles, for a first flow medium and a second flow medium, comprising:

a tube bundle which includes a multiplicity of tubes,

a first tube plate and a second tube plate,

a housing,

inlet and outlet connection pieces for the first flow medium,

wherein the tubes comprise tube ends connected to the tube plates, wherein the housing is connected to the tube plates so as to form a cooling chamber for the second flow medium and is connected at ends of the housing to the inlet and outlet connection pieces, and

wherein the first tube plate and the tubes are seamlessly formed with a one-piece construction,

wherein the first tube plate and the tubes are produced by impact extrusion.